

CCR#96-0488a

**Excerpts from 423-41-03, Contract Data Requirements Document
Section 7 - Data Item Descriptions (DIDs)**

1. NUMBER 603/OP1	DATA ITEM DESCRIPTION	2. QUANTITY 200 copies
3. TITLE Operational Readiness Plan		4. DATE December 21, 1990
5. DESCRIPTION Describes the process to assure all elements are in a state of operational readiness at all times, including preparations for mission launches and sustaining levels of performance of all hardware, software, and personnel for which the Contractor has M&O responsibility. Provides for regular monitoring of all M&O activities under the contract. Also includes the Contractor's plan for managing Operational Readiness Reviews. This document contains the following sections: Staffing Plan Section, Hardware Readiness Section, and Software Readiness Section The Staffing Plan section shall include: a. The number and qualifications of the person or persons provided to accomplish each function; b. The ongoing training to develop and maintain the knowledge, skills, and techniques required by each function; c. The provisions for maintaining full and efficient operations during any absence of Contractor personnel, including supervisors, shift leaders, and specialists; d. The regular scheduling of the operation of facilities and equipment individually, and in combination, as elements of subsystems and systems to develop and maintain familiarity and proficiency in tasks and assignments that may occur both, infrequently and frequently in meeting the contract requirements; and e. The demonstration of knowledge and proficiency by a comprehensive group of tests and exercises that provide a complete and objective measure of operational readiness.		
6. FORMAT As required by Specification for Document Formats, 500-TIP-2110. Alternative format specifications require government review and approval.		
7. DELIVERY Neutral File Format: Approved electronic media.		
8. TYPE Document	9. SOW REFERENCE 3.8.1.5, 3.8.1.5.1, 3.8.1.5.3	

1. NUMBER 603/OP1	DATA ITEM DESCRIPTION	2. QUANTITY 200 copies
3. TITLE Operational Readiness Plan		4. DATE December 21, 1990
5. DESCRIPTION (cont'd)		
<p>The Hardware Readiness section plans and procedures shall include:</p> <ul style="list-style-type: none">a. Current records that indicate the location and status of equipment and inventories;b. Preventive maintenance procedures and schedules;c. Reports of problems, malfunctions, or failures, their solutions or corrections, and analysis and projections that may indicate failure-prone components or equipment, or long-term degradation;d. Failure analysis or malfunction diagnosis procedures that will isolate and identify end-point failures, degradations leading to failures, and probable propagation routes of failures through components or subsystems;e. Systematic and comprehensive test procedures designed to exercise the system from the smallest subunit individually through the total interconnection of all elements into a complete system, including its human elements, that culminate in a demonstration of total system operational readiness;f. Contingency provisions to ensure operational readiness during the temporary unavailability, either planned or unplanned, of facilities or equipment. <p>The Software Readiness section of the plan describes software management and configuration management activities to be performed on all software maintenance tasks, and provides rigorous discipline for deliveries, discrepancy reporting, implementation, and tracking. It contains plans and procedures for assuring the operational readiness of all software delivered by the Contractor and accepted by the IATO and for all externally developed (non ECS) software which has successfully passed operational verification and operational testing.</p> <p><u>The plan describes the activities for preparing, verifying and reviewing the operational readiness of all ECS M&O staff, procedures, hardware, software and databases in preparation for ECS system and mission change events (e.g., Release-A, TRMM operations, Release-B, AM-1 operations). For each system or mission change event, the activities required for training, development of procedures and databases, testing of hardware and software, verification of those elements (ops exercises, readiness rehearsals) and the readiness reviews will be described. The responsibilities for planning, execution, reporting and approval of the activities will be included. The phasing of readiness activities to their events will also be described, but their specific schedules will be developed and maintained separately since they are subject to frequent change.</u></p>		
7. DELIVERY		
8. TYPE Document	9. SOW REFERENCE 3.8.1.5, 3.8.1.5.1, 3.8.1.5.3	

1. NUMBER 605/OP2	DATA ITEM DESCRIPTION	2. QUANTITY 200 copies
3. TITLE Operations Scenarios		4. DATE December 21, 1990
5. DESCRIPTION (cont'd)		
<p>The Operations Scenario Document specifies the display formats and operational scenarios that will be implemented in those elements with significant operator/machine interaction.</p> <p>The document shall describe the various operational scenarios encountered in day-to-day operation of the system. Maximum use of graphics and artist's renderings shall be used for descriptive purposes in sections describing the displays. The document shall include for all elements requiring operator interaction, a minimum of the following information:</p> <ul style="list-style-type: none">a. Complete description of each display including exact screen formats.b. Operational scenarios for each affected element.c. Descriptions of typical visual displays the operator will find on the display terminal during specific operations. <p><u>Describes the operability of the system design through the use of example science data processing and system administration sequences (scenarios). The scenarios include operations activity flows, operator actions and system actions-responses. Scenarios also include detailed CSCI workflows and input/output tables to illustrate the system's HMI (Human-Machine Interfaces).</u></p>		
6. FORMAT		
As required by Specification for Document Formats, 500-TIP-2110. Alternative format specifications require government review and approval.		
7. DELIVERY		
Neutral File Format; Approved electronic media.		
8. TYPE Document	9. SOW REFERENCE 3.3.2.6	

1. NUMBER 607/OP2	DATA ITEM DESCRIPTION	2. QUANTITY 200 copies
3. TITLE <u>ECS M&O Position Descriptions</u> Maintenance and Operations Manual		4. DATE December 21, 1990
5. DESCRIPTION Defines maintenance and operations concepts for the system elements and describes how the elements and subsystems will be operated and maintained. Roles and responsibilities of the operations personnel shall be described in enough detail to permit an evaluation of the operational requirements with respect to the individual hardware and software subsystem requirements. Any special maintenance requirements imposed by the hardware and software subsystem requirements analysis shall also be presented. <u>Identifies the ECS maintenance, operations, engineering and ops support staff positions for the SMC, DAAC, Sustaining Engineering Organization (SEO) and the EOS Ops Center (EOC). Each position's responsibilities and position-to-position interactions are described. The software tools required to accomplish those responsibilities are identified.</u>		
6. FORMAT As required by Specification for Document Formats, 500-TIP-2110. Alternative format specifications require government review and approval		
7. DELIVERY <u>Neutral File Format; Approved electronic media.</u>		
8. TYPE Document	9. SOW REFERENCE 3.8.3.1	

1. NUMBER 609/OP1	DATA ITEM DESCRIPTION	2. QUANTITY 200 copies
3. TITLE <u>Operations Tools Manual</u> <u>Maintenance and Operations Procedures</u>		4. DATE December 21, 1990
5. DESCRIPTION Provides detailed description of the operations and maintenance procedures for elements and subsystem. Contains complete operations descriptions for the subsystem, including the operating modes, formats, and operator controls and responses for any operator actions. Emphasis is placed on the integrity of the man/machine interaction to accomplish a system operation within operational and environmental constraints. Maintenance procedures are described in similar detail with a step-by-step maintenance plan for each configuration item, specific preventive maintenance frequencies and durations, and identification of unique maintenance procedures. <u>Describes the human-machine interface (HMI) characteristics of the tools (CIs) used by the ECS operations staff. Site-specific diagrams will be included to provide a mapping of the software tools to their resident hardware platforms. This manual will be used during training to familiarize the operators with their tools and during operations as a reference for all operational tasks. The following operating characteristics for the ECS developed software configuration items (CIs) will be described:</u> <u>1. Required operating environment - e.g., files, interfaces, databases, directories</u> <u>2. CI/Function operating modes - description of their purpose, controls</u> <u>3. Operator commands - use, command line formats, parameters, definitions, legal values - ranges, defaults</u> <u>4. GUIs - use, screen layout, illustrated description of content, screen update characteristics, input descriptions (purpose, acceptable values, defaults, expected responses)</u> <u>5. Log event messages - description</u> <u>6. Error messages - description, probable causes, impacts, proposed remedies</u> <u>7. Reports - data available, standard formats with illustrated descriptions of contents</u> <u>8. Outputs - files, database table updates, debug data, etc.</u> <u>COTS CIs will be identified with a brief description of their operational use. Any ECS added/modified operating characteristics will be described. All other vendor supplied operating characteristics will be referenced to vendor manuals including specific locations of COTS Event/Log/Error message explanations. This manual shall provide operating characteristics where vendor references are not complete, where further tailoring was developed by ECS, or where restrictions and limitations are imposed by ECS. This document shall be maintained during the operations phase.</u>		
6. FORMAT As required by Specification for Document Formats, 500-TIP-2110. Alternative format specifications require government review and approval. All Schematics Level drawings should be in accordance with 500-TIP-3109 and X-673-64-1D.		
7. DELIVERY Neutral File Format; Approved electronic media.		
8. TYPE Document	9. SOW REFERENCE 3.3.2.6	

1. NUMBER 611/OP3	DATA ITEM DESCRIPTION	2. QUANTITY 25 copies each manual
3. TITLE <u>Mission Operations Procedures</u> Operator's Manuals		4. DATE December 21, 1990
5. DESCRIPTION Provides procedures and information for operating each system element/subsystem and for maintaining a state of readiness to perform the subsystem functions. A manual is to be developed for each of the ECS elements. Operations Manuals shall be prepared and maintained for all ECS equipment and elements requiring operator interaction. The manuals shall contain the procedures and information necessary to initiate, operate, and monitor the equipment. <u>Provides SMC, DAAC and EOC procedures that assign and describe operators, engineers, ops support, administration and management staff actions required to configure, maintain and operate the ECS system.</u> <u>The DAAC portion of this document will contain standard procedures that can be modified at the DAACs during subsequent training, ops exercises and procedure review activities to reflect desired uniqueness.</u>		
6. FORMAT The operator's manuals should be in accordance with 500-TIP-2111.		
7. DELIVERY Neutral File Format; Approved electronic media.		
8. TYPE Document	9. SOW REFERENCE 3.8.3.1	

1. NUMBER 613/OP1	DATA ITEM DESCRIPTION	2. QUANTITY 25copies each plan
3. TITLE COTS Maintenance Plan		4. DATE December 21, 1990
5. DESCRIPTION Describes policies and procedures <u>the approach and processes</u> to be applied to maintenance of all COTS hardware and software for which the Contractor has M&O responsibility. Delineates the preventive maintenance (PM) for all systems/equipment and provides a means for scheduling its accomplishment; provides a system of records to document all COTS maintenance, including both PM and corrective maintenance, as well as modifications; specifies reports to be provided; provides procedures <u>describes the approach</u> for configuration control; specifies training requirements and schedules; and defines policies and procedures <u>describes process</u> for maintaining visibility and control of system problems using discrepancy reports or similar mechanisms. <u>Identifies the approach to maintaining the site's critical functions in addition to the general off-site maintenance support. The plan shall describe how sites will determine the maintenance provider for COTS products and the date of warranty or maintenance contract expiration.</u> Procedures for maintenance of hardware or software include the following: <ul style="list-style-type: none">—discrepancy reports (DRs);—investigation of anomalies and inefficiencies;—operational work around;—presentations to the Configuration Management Board;—implementation of modifications to hardware or source code, operational procedures, user documentation, engineering diagrams, and programmer documentation as appropriate;—test plan and test procedures for the system modification;—DR resolution, modified documentation, test plan and procedure and the test results to the CCB and to the IATO for acceptance testing prior to installation;—installation of the DR resolution after acceptance by the IATO and the CMB;—notification of operational personnel and affected users of the DR resolution and installation schedule prior to installation.		
6. FORMAT As required by Specification for Document Formats, 500-TIP-2110. Alternative format specifications require government review and approval.		
7. DELIVERY Neutral File Format; Approved electronic media.		
8. TYPE Document	9. SOW REFERENCE 3.8.3.2	

1. NUMBER 614/OP1	DATA ITEM DESCRIPTION	2. QUANTITY 100 copies
3. TITLE Developed Software Maintenance Plan		4. DATE December 21, 1990
5. DESCRIPTION Specifies the policies and procedures <u>processes</u> for the maintenance of developed software. <u>The corresponding procedures will be documented in the revised DID 611 CDRL.</u>		
6. FORMAT As required by Specification for Document Formats, 500-TIP-2110. Alternative format specifications require government review and approval.		
7. DELIVERY Neutral File Format; Approved electronic media.		
8. TYPE Document	9. SOW REFERENCE 3.8.3.2.3	

1. NUMBER 616/OP2	DATA ITEM DESCRIPTION	2. QUANTITY 25 copies
3. TITLE Integrated Logistics Support Plan		4. DATE December 21, 1990
5. DESCRIPTION Describes the programmatic and management structure, the management tools (planning, controls and information system) and the reporting to be used by the Contractor in the implementation, integration, and execution of the ECS Integrated Logistics Support (ILS) program. Identifies the ILS oriented reports and manuals to be developed. Covers all ILS for ground system installation, testing, and operations. The ILS mission is to identify resources and facilities needed to achieve and maintain the operational availability requirements of ECS which relate to logistics support. The Contractor shall establish an ILS program to minimize life cycle cost. In the fulfillment of this effort, the Contractor shall provide the capability for problem definition and resolution, data analysis, logistic support engineering analysis, on-site and off-site field support, overhaul, operation and maintenance documentation, supply support, packaging, handling, and transportation support, standardization and training. This plan shall include but not be limited to: <ul style="list-style-type: none">a. A brief description of the ILS objectives and their relationships to major program requirements;b. A description of the organization planned for management of the ILS program, and the internal interfaces between the ILS organization and other elements of the Contractor's organization, as well as with Goddard Space Flight Center's organizational interfaces;c. The resources required by the Contractor at the ECS site.		
6. FORMAT As required by Specification for Document Formats, 500-TIP-2110. Alternative format specifications require government review and approval.		
7. DELIVERY Neutral File Format; Approved electronic media.		
8. TYPE Document	9. SOW REFERENCE 3.8.2	

1. NUMBER 622/OP2	DATA ITEM DESCRIPTION	2. QUANTITY 200 copies
3. TITLE ECS Training Plan	4. DATE December 21, 1990	
5. DESCRIPTION		
<p>Defines the training required to prepare personnel to operate, maintain and utilize the ECS in support of EOS missions. Describes the organization, facilities, equipment, methodology, requirements analysis, staffing, curriculum and schedule for Contractor training of EOS management, investigator, technical, operations and maintenance personnel. Includes subcontractor provided training as applicable. The training methodology shall include, but not be limited to, computer assisted instruction, classroom training, supervised on-the-job training and audiovisual aids including video tape presentations by the subject matter experts. The Plan shall also include trainee test and certification procedures.</p> <p>Includes course descriptions providing an overview of the training courses covering, as a minimum, all elements of the system, subsystems, orientation guides, maintenance and other specific courseware. Includes a course schedule and a matrix of courses with prerequisites and associated qualifications.</p> <p>The training plan shall contain, as a minimum, the following information:</p> <ul style="list-style-type: none">a. Training organization and responsibilities;b. Necessary Contractor and Government training facilities;c. A description of the overall training approach whether formal, informal self study or on-the-job training;d. A training objectives versus training resources requirements matrix which identifies instructor staffing and shows unique training provisions or equipments;e. The knowledge, skills, prerequisites and proficiency levels required of each statement;f. A detailed training schedule;g. Test and certification procedures. (Note: Forms part of certification plan.) <p><u>Replace with attached.</u></p>		
6. FORMAT		
<p>The training plan shall be prepared in accordance with the Contractor Provided Training Specification 535-TIP-CPT-001.</p>		
7. DELIVERY		
<p>Neutral File Format; Approved electronic media.</p>		
8. TYPE Document	9. SOW REFERENCE 3.8.3.4.2, 3.2.2.3	

1. NUMBER 622/OP2	DATA ITEM DESCRIPTION	2. QUANTITY 200 copies
3. TITLE ECS Training Plan		4. DATE December 21, 1990
5. DESCRIPTION <u>Identifies and describes the training required to prepare personnel to operate, maintain and utilize the ECS system to accomplish the EOS missions. Describes the organization, facilities, equipment, training approach, staffing and curriculum and summary level schedules for training of ECS management, investigator, technical, operations and maintenance personnel. (Detailed training schedules are subject to change and will therefore be provided and maintained separately.) Includes vendor provided training as applicable. The training methodology shall include, but not be limited to, vendor training, formal classroom training and supervised on-the-job training.</u> <u>The Training Plan shall include the following information:</u> <u>a. Overall training approach</u> <u>b. Training staff and responsibilities</u> <u>c. Detailed training development and implementation schedules</u> <u>d. Training population</u> <u>e. Training requirements for each trainee type (position)</u> <u>f. Course objective, description and summary of materials for each training course</u> <u>g. Course prerequisites</u> <u>h. Facilities Requirements (contractor and government)</u> <u>i. Brief description of operator certification. (Details will be provided in DID 626 M&O Certification Plan.)</u>		
6. FORMAT The training plan shall be prepared in accordance with the Contractor Provided Training Specification 535-TIP-CPT-001.		
7. DELIVERY Neutral File Format; Approved electronic media.		
8. TYPE Document	9. SOW REFERENCE 3.8.3.4.2, 3.2.2.3	

1. NUMBER 625/OP3	DATA ITEM DESCRIPTION	2. QUANTITY 200 copies
3. TITLE Training Material		4. DATE December 21, 1990
5. DESCRIPTION <p>All training materials shall be furnished under this data item. Course material shall be modularized, individualized, and use multi-media learning resources. These materials shall consist of visual and instructional materials for all areas of system operations, maintenance and enhancement. Training materials shall support the training of operations and maintenance personnel. Identifies training materials and equipment including the following, as a minimum:</p> <ul style="list-style-type: none"> a. Job task schedule; b. Screening test; c. Instructor handbook; d. Textbook; e. Display book; f. Student workbook; g. Academic and performance tests; h. Training aids; i. Interactive Courseware (computer based training)/software/equipment; j. Simulation Courseware/software/equipment; k. Certification/Skills catalog. <p><u>The course Training Material shall be modularized, individualized, and use multi-media learning resources. These materials shall consist of visual and instructional material for all areas of EOS system operations, maintenance, and administration. Training materials shall support the training of operations and maintenance personnel. The Training Material shall include the following:</u></p> <ul style="list-style-type: none"> <u>1. Classroom Training</u> <ul style="list-style-type: none"> <u>a. Course Objectives</u> <u>b. Course Outlines</u> <u>c. Student Guide (task descriptions and practical exercises)</u> <u>d. Class Slide Presentation materials and reference document lists</u> <u>2. Console Training - By Position</u> <ul style="list-style-type: none"> <u>a. Ops Tools and Procedures to be exercised</u> <u>b. Exercises/scenarios/test sequences to be executed. Data to be provided.</u> 		
6. FORMAT <p>Contractor format should be in accordance with Document Format Specification 500-TIP-2110 standards or Contractor format acceptable with approval.</p>		
7. DELIVERY <p>Neutral File Format; Approved electronic media.</p>		
8. TYPE Document	9. SOW REFERENCE 3.8.3.4.2	

1. NUMBER 626/OP1	DATA ITEM DESCRIPTION	2. QUANTITY 25 copies
3. TITLE M&O Certification Plan		4. DATE December 21, 1990
5. DESCRIPTION		
<p>Includes the procedures and examinations which will be required to achieve certification for each operations or maintenance position. The following items are part of the Certification Plan:</p> <ul style="list-style-type: none">—Development of the certification program (positions for which certification is required, experience, training, and operational proficiency required for each position, Government approval)—Administration of the certification program (certification records, change and skills maintenance)—Interface with non-ECS EOSDIS Elements concerning curriculum scheduling, student registration, and training requirements.—Training Staff Requirements, such as:<ul style="list-style-type: none">—Present and future training requirements analysis—Training cost effectiveness.—Criticality of equipment/systems in support of ECS operations.—Selection of training methodologies (e.g., formal, OJT, vendor, etc.)—Periodic evaluation of current training curriculum reassigning ECS formal training courses to OJT or self-study where appropriate.—Additional training requirements to operate and maintain new or modified equipment/systems in support of ECS operations, and to ensure operational proficiency is maintained. <p><u>Describes the process and responsibilities for certifying M&O staff to operate and maintain the ECS system and execute the mission operations, more specifically -</u></p> <ul style="list-style-type: none">• <u>Identifies the certifiable positions</u>• <u>Identifies the minimum formal and informal training required for each position, e.g., self-study, OJT</u>• <u>Describes the roles/responsibilities for administering and approving certifications including record keeping.</u> <p>Note: GSFC Contractor Provided Training Specification 535-TIP-CPT-001 and NMOS Certification Program 500-1002 are recommended for use as a guideline in the preparation of an overall certification plan.</p>		
6. FORMAT		
As required by Specification for Document Formats, 500-TIP-2110. Alternative format specifications require government review and approval.		
7. DELIVERY		
Neutral File Format; Approved electronic media.		

8. TYPE Presentation	9. SOW REFERENCE 3.8.3.4.1
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